Chapter 5

Keeping chicks alive – parent or broody reared

At times, it can seem that pheasant chicks find every possible way to kill themselves or to get themselves killed. They seem to escape from the aviary through the smallest of holes, stand next to the wire dividing aviaries and get pecked by neighbouring adults or just stand out in the rain and get too wet to survive. Parent-reared chicks seem to have fewer problems but can still wander off from their mother and chill quickly. Predicting where and when problems can occur can frequently make the difference between keeping the chicks alive and losing them.

- The parent or broody hen provides warmth and shelter.
- Chicks and parents need to learn this, so limit the brooding range initially and ensure that they will not get wet if it rains.
- Ensure there are no obstacles where chicks can get lost – the parent can fly, but the chick can't.
- Pheasants can't count, so can easily lose chicks – however, they usually respond very rapidly to alarm calls from their chicks.
- Place food and water in easily accessible areas.
- Supply food in a shallow container where the chicks can feed easily, but remember that the parents of some species will also use this as a food source, so check that food is always available
- Acquire mealworms and chick crumbs before the predicted hatch date – hard boiled egg can also be very palatable and good for young chicks
- Provide clean water in a container that is accessible to chicks, but where they won't get wet – pebbles make good stepping stones.
- Some males can help rear chicks
- Some males can kill or injure chicks – observe closely
- Ensure there are no exterior perches where chicks can roost out at night – they are capable of sitting on the thinnest of branches when they first learn to fly.
- Learning to roost at night can be the greatest danger to chicks when the hen roosts up and some of the chicks can't fly to reach her perch – check every night at dusk
- Provide "ladder" perches to help chicks.

Palawan hen provides natural "umbrella" for her two chicks

It can be very wet in the tropical rainforests inhabited by peacock-pheasants. Nature has taught the hens to spread their tails to provide a shelter for their chicks, and the chicks respond instinctively.

cheer family feeding on grass
The poults are about three months old.

This particular satyr male provided a surprise one year when his young hen refused to sit on her eggs, so he sat the whole 28 days and hatched and raised them. The hen gradually began to help in feeding and brooding the chicks, and in subsequent years she went on to adopt her traditional role. The male always "guards" her and her chicks vigorously.

Ladder perch to help young chicks

A hen brooding chicks on the ground at night is obviously far more likely to be predated than if they are all roosting in a tree. When a pheasant hen decides that her young are fledged sufficiently to roost on a perch, she will usually fly up and then call the chicks to her. Quite frequently, particularly when the hen has a number of chicks, she will go to roost once some of them have reached her on the perch. It is not uncommon to come to an aviary at dusk and to find one or two chicks cowering in an aviary corner, having been unable to reach their mother. Of course, they still need their mother's warmth at night and will be found dead in the morning if not re -united.

This tragopan hen likes to re-use the nest basket where she hatched her eggs when she first gets her chicks off the ground at night. An inclined "ladder " perch has been provided – a piece of wood with some small branches fixed to it. The angle should not be too steep since the chicks can usually only get up by a combination of flapping and running. The hens of some species can attempt to brood up a perch much sooner than expected – four to six days after the chicks hatch is not uncommon.

Until certain that all chicks are capable of flying to a roosting perch, it is important to check aviaries at dusk, and either to drive the hen down if her chicks cannot all roost up, or to quietly catch up any grounded chicks and to put them beside their hen. When trying to do this, the hen will often attempt to defend herself and her chicks by pecking at anything near her. If you hold the chick in one hand, and use the other hand to distract the hen, it is usually possible to get the chick up beside the hen before she realises what is happening – a case of the left hand and the right hand working in opposite directions.

One of the major problems faced by zoos is that their staff are not on duty at this time of the evening, and so cannot supervise this process. Often parental aggression is blamed for the overnight death of a chick, when actually it has died of cold. When a parent bird finds the chick first thing in the morning, it will often try to rouse it and peck at it, causing minor injuries. However, if the body is examined and there is a peck injury but no sign of major blood loss, then probably the chick was already dead before the parent bird pecked it.

Chapter 6

Keeping incubated chicks alive

- The basics of artificial incubation are covered in Chapter 4.
- It is recommended that breeders get incubated chicks out of small indoor brooder boxes and onto grass as soon as possible – the pheasant hen does this naturally!
- This can often help chicks with twisted toes to straighten them
- It is vital to keep chicks dry – they are not waterproof at this time and lose body heat rapidly if they get rained on.
- An electric hen or heat lamp can be used as a source of heat for the chicks.
- A portable run on grass provides easy access to heat and food and retains chicks within a small area which can be changed from day to day so the birds stay on fresh ground.
- Cover the run from the rain and wind – even so, the breeder will always need to keep a close eye on the weather to ensure that chicks do not get wet, or chill too quickly
- For some species, such as koklass and tragopans, grass improves the artificial diet immensely
- The chick pen can provide a gradual acclimatisation when placed within an aviary.

Chick pen

Here a small pen is placed on grass inside an aviary. It has an electric hen, which is located under a covered roof, to protect it from the elements. Later, the chicks will be released into the same aviary, with the same electric hen to keep them warm. A pitched roof would improve the design, allowing it to shed rainwater more easily and therefore keeping the chicks drier.

Electric hen

A useful portable unit, manufactured by AB Incubators. The legs are adjustable so that, as the chicks get bigger, the height of the heater can be raised. Many people use heat lamps. If these are used, it is best that they are located in a corner so that, if the heat becomes too great, the birds can move away. If the chicks all huddle together underneath the heat lamp, it has probably been placed too high and needs to be lowered to raise the temperature for them.

Drinker

Inevitably, chicks will walk everywhere so, by placing small pebbles in the water container, the chicks are unlikely to get very wet, and they will

soon learn to use the pebbles as stepping stones. If their feet get wet, this also seems to stimulate them into drinking.

Chick feeder

This needs to be sufficiently shallow for chicks to see the food and to reach it, whilst not allowing mealworms to crawl out and escape. Chicks seem to see and explore food items more quickly if they are on a light or white background.

Twisted toes

There can be many reasons for chicks hatching with one or more toes twisted out of natural alignment. Diet and in-breeding are often blamed, but in many cases twisted toes probably result from incorrect humidity setting within the incubator.

When the chick pecks its way out of the egg, it rotates inside the egg and uses its feet to lever against the egg shell. Within the confines of the egg, the toes are pointed inwards naturally and they do not open out until the chick hatches.

However, if the humidity within the incubator creates an egg shell which is more difficult for the chick to penetrate, then the feet are confined under pressure for longer than usual, and they may remain like this once the chick hatches. Humidity that is too high during incubation can cause a build up of moisture in the shell, thus restricting the chick from turning.

Experience has shown that cases of twisted toes can be reduced or disappear completely if the chicks can be allowed natural exercise, particularly on grass.

Of course, suitable heating, food and shelter are also needed and chicks will need to be observed carefully to ensure they do not chill. However, if they were with their natural mother, they would be getting such regular exercise as soon as they leave the nest.

Stress has also been known to cause bent toes in chicks that have hatched normally. Some species seem more susceptible to stress than others and constant moving may contribute to this. Stress in adult birds can have a similar effect

Finally, there is now some evidence to show that a change of diet or a poorly balanced diet can result in toes twisting in previously normal chicks. A Palawan peacock-pheasant hen regularly stopped feeding chick crumbs to her chicks at about two weeks and invariably their toes began to twist within a couple of days.

Splayed Legs

Occasionally an incubated chick takes too long getting out of the egg and the legs “splay” outward at the hip joint. Usually the chick cannot stand and it flounders around with its body on the ground and the legs out at right angles. This can sometimes be corrected by placing the chick with the legs held in the proper position for about half a day as shown here. It is best to confine the chick as soon as possible after noticing the problem - the longer the hips are displaced, the less chance there is of correcting the problem. A soft cloth needs to be placed in a container in such a way that the chick will, not be able to move its legs.

Chapter 7

Signs of illness and moulting

This young male Swinhoe's chick shows the typical signs of being unwell – moping with hunched shoulders and drooping wings.

Recognising that a bird is unwell is vital in order to save it. Usually wild birds do not show signs of illness at an early stage, since this would mark them out for predators. So when a pheasant shows signs of illness it is often very sick. Pheasants give up on life easily and soon stop feeding. If it is possible to identify the cause of the illness, often the best that can be done to help the bird is to isolate it and provide additional warmth. If unsure, seek veterinary advice from a vet who has experience with birds. A portable heat lamp or small heated shelter can work wonders if illness is recognised at an early stage. If the bird has to be caught up to move it, a brief examination of the crop and breast muscles can often give an indication of whether the bird has fed recently and whether it has been wasting away for some time. The breast muscles of a fit and healthy bird are usually plump and firm and the keel bone in the centre of the breast does not stick out a long way. This is often not the case with a bird that has been ailing for some time.

At a later stage when the bird has shown signs of suffering for a day or so, without veterinary intervention the bird will usually die, and of course any intervention that raises stress levels in the bird is likely to worsen its condition. It makes sense to have a post-mortem conducted on any valuable bird that dies, or if more than one bird dies.

The Swinhoe's chick on the left has retreated into a corner – it had been raised quite happily with two grey peacock-pheasant chicks, which had suddenly united to drive it away from the food. This bullying needs to be recognised quickly, or the chick will give up and die. Removing the chick from the bullying peacock-pheasant chicks and feeding it separately allowed it to recover fully.

Portable heat lamp

It is always useful to have a heat lamp available to help a sick bird. Usually the bird goes into a corner and mopes, and this sort of lamp can often be set up without creating much disturbance to the bird. A length of thin chain attached to the top allows it to be suspended quickly from the aviary roof or a perch. The chain can withstand any heat produced by the lamp, whereas string will

deteriorate rapidly.

The Moult

Pheasants moult once a year, usually after the breeding season has finished. Males often go into the moult once their hen has started to incubate her own eggs; moulting males are often infertile and can often be less aggressive to their hens and chicks.

Perhaps this is nature's way of providing some protection for young chicks that might otherwise be attacked by their own father.

Hens that have incubated their own eggs seem to start their moult once the chicks are about two or three weeks old.

Whenever birds moult, it can be a very debilitating time for them. In the wild, they usually moult when there is a plentiful and varied supply of food available, so similar assistance needs to be offered to captive pheasants. The development of the new feathers needs good protein levels. An additional intake of soft fruit, green food and insects can provide a great deal of support to the birds at this time, although different birds from the same species can have quite different favourites.

A poor diet during the moult can result in barring or change of colour in feathers, and these will remain discoloured until the next year's moult. This young Temminck's tragopan shows typical signs on its wings.

Gynandry

Occasionally a female will stop producing eggs and begin to moult into partial male plumage. This is the avian equivalent of the menopause and is known as gynandry. These photos show gynandrous Blyth's and Amherst females. They have stopped producing female hormones.

When a hen becomes gynandrous, often she slows up and appears very lethargic. She may often die at this time, but if she survives, after a few months she seems to have renewed vigour. Her first moult after this will begin to show some male colouration and, if she continues to survive, each subsequent moult will show increasing male colouration.

Inexperienced keepers often refer to gynandry as "changing sex", but this is not the case. Indeed, males continue to display to their gynandrous females even though they will never lay another egg. In the wild, little is recorded about gynandry, probably because most females will be predated as their metabolism slows up.

This gynandrous game pheasant hen was seen regularly in the breeding season with a male and three other normal adult hens. The male continued to display to this bird and to tit-bit feed her, even though she no longer looked like a hen. When other males approached to try and steal hens from the harem, the male vigorously defended all the birds, including the gynandrous female.

Chapter 8

Record Keeping

By keeping a data sheet about each bird displayed on the aviary where it lives, records are easily accessible giving useful details about studbook number, ring number, age, breeder and when it was acquired.

Malay Crestless Fireback
Lophura Erythrophthalma

Sex	Studbook No.	Hatch Date	Breeder	Local ID	To Woodmere Ave.
Male	T012	1992	Wildlife Dept.	J0005/0021/OHBG	5-12-99
Fema		c1980	Noel Hendryx	0026/OHBG	2-03-98

Malaysian Peacock Pheasant
Polyplectron Malacense Malacense

Sex	Studbook No.	Hatch Date	Breeder	Sire	Dam	Local ID	To Woodmere Ave.
Male	M306	11-11-91	Zoo Negara	M155	M156	91050	26-06-98
Female	M397	14-03-92	W'life Dept.	M160	M142	K0020	26-06-98

Mountain Peacock Pheasant
Polyplectron Inopinatum

Sex	Studbook No.	Hatch Date	Breeder	Sire	Dam	Local ID	To Woodmere Ave.
Male	191	31-08-94	Birdworld	85	82	K2316	6-10-95
Female	197	08-09-94	San Diego	61	86	SDZ12/613	6-10-95

Satyr Tragopan
Tragopan Satyra

Sex	Studbook No.	Hatch Date	Breeder	Local ID	To Woodmere Ave.
Male		1993	Mike Cook	3123 P099	31-8-98
Female		1998	OHBG	2532 4783P	18-8-99

Closed ringing

This small chart is very useful to determine easily the age of a bird by the colour of its ring:

Species Common Name	Species Scientific Name	Av Closed Ring Size
Koklass	Pucrasia macrolopha	12mm
Himalayan Monal	Lophophorus impeyanus	14mm
Sclater's Monal	Lophophorus sclateri	16mm
Chinese Monal	Lophophorus ihuysii	18mm
Red Jungle-fowl	Gallus gallus	12mm
Ceylon Jungle-fowl	Gallus lafayetti	12mm
Grey Jungle-fowl	Gallus sonnerati	12mm
Green Jungle-fowl	Gallus varius	12mm
Kalij	Lophura leucomeiana	12mm
Silver	Lophura nycthemera	14mm
Edwards'	Lophura edwardsi	12mm
Vietnamese	Lophura hatinhensis	12mm
Swinhoe's	Lophura swinhoii	14mm
Salvadori's	Lophura inornata	14mm
Crestless Fireback	Lophura erythrophthalma	14mm
Crested Fireback	Lophura ignata	14mm
Siamese Fireback	Lophura diardi	12mm
Bulwer's	Lophura bulweri	14mm
White Eared	Crossoptilon crossoptilon	14mm
Brown Eared	Crossoptilon mantchuricum	14mm
Blue Eared	Crossoptilon auritum	14mm
Cheer	Catreus wallachi	14mm
Elliot's	Syrmaticus ellioti	12mm
Hume's	Syrmaticus humiae	12mm
Mikado	Syrmaticus mikado	12mm
Copper	Syrmaticus soemmerringi	12mm
Reeves'	Syrmaticus reevesii	12mm
Common Pheasant	Phasianus colchicus	12mm
Green Pheasant	Phasianus versicolor	12mm
Golden	Chrysolophus pictus	10mm
Lady Amherst	Chrysolophus amherstiae	12mm
Bronze Tail Peacock Ph.	Polyplectron chalcurum	10mm
Mountain PP	Polyplectron inopinatum	10mm
Germain's PP	Polyplectron germaini	10mm
Grey PP	Polyplectron bicalcaratum	10mm
Malaysian PP	Polyplectron malacense	10mm
Palawan PP	Polyplectron emphanum	10mm
Bornean PP	Polyplectron schleiermacheri	10mm
Crested Argus	Rheinartia ocellata	16mm
Great Argus	Argusianus argus	16mm
Blue Peafowl	Pavo cristatus	20mm

Schedule of ring sizes for pheasants from Aviornis

This aide memoire can be a useful list to display in the bird room during the breeding and ringing season. Most WPA members use rings made by AVIORNIS, a Europe-wide bird organisation which registers rings to individual owners. Aviornis uses a six year cycle for ring colours.

AVIORNIS Ring Colours

1994	RED
1995	GREEN
1996	VIOLET
1997	BROWN
1998	BLUE
1999	GOLD
2000	RED
2001	GREEN
2002	VIOLET
2003	BROWN
2004	BLUE
2005	Not issued – plain silver only
2006	RED
2007	GREEN
2008	VIOLET
2009	BROWN
2010	BLUE
2011	GOLD
2012	RED

Chapter 9

Security

Most people will have concerns about the security of their birds, and those who also keep parrots will be very aware of the need for constant vigilance. There is no doubt that thefts of valuable birds is on the increase.

The product of just one commercial company is shown here to give an indication of what is available, and to highlight some key points regarding security.

The Predator Loop was originally devised to protect a number of farm buildings; it can use infra-red beams or a series of galvanised wires around buildings or aviaries. If the beam or wire is broken or moved, a sensor is triggered.

The unit is vandal resistant and can be battery or mains powered. It can sound a very loud alarm, power security lights or send a message to a phone.

Experience has shown that it can be very useful to have at least some form of security light within the aviary complex. By having it within an aviary, it cannot be tampered with prior to a robbery.

It is also probably a good idea not to give out your address when speaking to potential customers who are not known to you. Always take a telephone contact number – not a mobile, since that is not nearly so traceable. It is probably also a good idea to record all car numbers of visitors to your aviaries.

This security light has an infra-red sensor to detect any movement or unusual heat outside the aviary. It can be purchased quite cheaply at any D.I.Y. store. With a little electrical knowledge, it is also possible to wire up a video recorder and micro camera to the sensor so that any time the sensor and light are triggered, the camera also records any visitor. This can show if a fox is a frequent visitors, but animals as small as a hedgehog can trigger the sensor. By placing all the electronics inside the aviary, it is impossible for any casual visitor to tamper with the system before returning later at night to steal birds.

Hybrids and brother/sister pairs

Please don't consider creating hybrids like this golden / Amherst cross – birds are too valuable to be polluted in this way. Almost three -quarters of the birds in the International studbook for the critically endangered Edwards' pheasant had to be excluded as a result of one accidental hybridisation.

Brother – sister pairs reduce the genetic diversity of birds and such in-breeding can have long term conservation effects. Try to acquire unrelated birds

and, if you are successful in breeding, see whether you can establish a good relationship with breeders of the same species so that you can work together to provide new unrelated pairs. Good record keeping can be vital in maintaining genetic diversity and natural characteristics. International studbooks and breeding programmes exist for a number of the more endangered pheasant species and the Sparks record keeping programme can be extremely helpful in recommending how a population can be managed most effectively.

Padded catching nets

These padded nets, made by Norfine Nets are extremely practical and hard-wearing. As the net rim is padded, it is unlikely to injure the bird if it accidentally hits it in mid-flight. The short handle makes it very manoeuvrable within aviaries which are only 2 m tall. Black material is much more bird friendly for pheasants. Because the bird is in the dark once it is caught, it struggles much less and so the whole catching process is less stressful for the bird. If the net is sufficiently deep, it is possible to turn the top over to keep the bird inside, and then to transport it elsewhere without the need to hold the bird at all.

Norfine can be contacted at Dereham in Norfolk (UK) on 01362 690900.

It is strongly advised not to use a net where the catching material is mesh - like a fisherman's landing net. Birds can see when they are in it so continue to struggle and they frequently get their claws and beak caught in the mesh. Serious injuries can often occur with this type of net. Those with practical skills can make their own net very cheaply.

Get some thick fencing wire, or some copper tubing and bend it into a circle as the frame for the net. Straighten the ends of the frame so that they can be clamped to the handle. Put some pipe insulation material around the frame as padding and hold it in place with insulating tape. Purchase a cheap black bedding sheet and use part of this sheet to create the net - you can probably get several nets from the same sheet. Sew this to the frame and you have created a net for very little outlay.

Holding a pheasant safely

If at all possible, it is better not to hold a pheasant, since the stress can sometimes kill the bird. If it needs to be handled, as in this instance when a ring is being fitted onto the leg of a newly rescued wild kalij, then it should be held by the top of both thighs. The thigh bones are the biggest and strongest in a bird's body, as are the muscles that surround them. On no account should the bird be held by the lower legs, which can easily break if the bird struggles.

In this picture, the bird's head is in the dark under the elbow, which usually discourages struggling. At the same time, the wings are unable to flap because they are held closed between the holder's forearm and the body. This method also allows the holder to have a free hand to examine the bird or, in this case, to apply the ring.

Transporting box

Note the foam padded roof to avoid head injuries and very little light allowed in – pheasants travel best when in a darkened atmosphere.

Also note air holes all round and blocks screwed onto the front door and back to act as handles and also to keep an air space around the box in transit if stacked.

A wooden box is obviously much safer than a cardboard one and, because it is lockable, there is no possibility of a bird escaping. This was not the case with one breeder who collected a cheer hen and taped it into a cardboard box. In a sudden shower of rain, the tape became ineffective and the bird flew straight out of the box.

By adding a carrying handle on the roof of your box, it makes it much easier to move and also allows a smoother carriage for the bird inside. It is not recommended to carry more than one bird in a box, unless they are quite young. In a confined space, adult birds might choose to peck at another bird that is very close, resulting in an eye injury, or even worse.

Most people do not realise that pheasants, particularly Himalayan species, frequently go without water and food for many days in their natural environment. When deep snow covers their home range, they will perch safely somewhere out of the wind and just stand, conserving their energy and limiting energy expenditure, until food becomes available. Many species also exhibit this behaviour when they incubate their eggs. A golden pheasant hen will sit her whole incubation period without leaving the nest for food and water. Thus their needs and requirements when travelling are very different to those of other species. Of course, water and food must still be provided in travelling boxes if birds are to be held therein for more than a day, but there really is no need for this, other than to comply with a law which is designed for other animal species Some juvenile cheer pheasants were sent to Pakistan as part of a reintroduction project and, because of delays in their transport and arrival, they received no sustenance for 6 days. When they arrived, they walked out of their boxes quite unperturbed and began to explore their new surroundings without going to the food and water that had been made available. Of course, this should never be used as a reason for not providing birds with food and drink, but it certainly shows how tough birds can sometimes be.

It is quite easy to fit small food and water containers in a travelling box if required. Obviously, it is best if these can be accessed without opening the door (since the birds will very likely fly out rapidly). Cut a small access hole in the rear of the box through which food and water can be put in the containers. Cover the hole with a sliding panel which is closed when the birds are in transit. Small plastic containers or baked bean tins (which have had the lids and all sharp edges removed) can be fixed with plastic cable ties or wire, through small holes drilled in the back of the bock. Obviously, the ends of the cable ties or wire should be on the outside of the box so that they cannot injure the birds. It should be remembered that these containers will take up floor space in the box and give the bird less

room to settle down when it is travelling. Pheasants almost always settle down onto the floor very quickly and remain there for the duration of their journey.

If the box is travelling by car, ensure that any water in the drinking container will not spill out and make the bird or the box floor wet. Many breeders find that pieces of juicy fruit, such as water melon, provide both food and liquid for birds in transit. Indeed, all the pheasants which travel from the Malaysian Wildlife Department to the UK use water melon very successfully. The food and drink containers can be removed easily to provide more room for the pheasants.

Finally, check that there will be sufficient air flow around the box and that the area of the car where the box will stand does not get hot. It is a good idea to ensure that the box is secured so that it will not move, even if the car needs to brake sharply.

Animal Transport Certificate

In the UK it is a legal requirement to complete this DEFRA form before moving any animal other than a pet. It can be downloaded from the DEFRA or WPA websites. Many other countries have similar requirements, so do check before you consider moving any birds from one country to another.

There is more information on this in the introduction.

UNITED KINGDOM
ANIMAL TRANSPORT CERTIFICATE

(Article 4 of Council Regulation (EC) 1/2005)

To be completed for all animal movements as part of an economic activity except where a Journey Log is required

Please read the notes overleaf before starting to complete this form

1. Full name and address of transporter *	2. Full name and address of owner of animals * (if different to section 1) Post code
Telephone no. Fax no. -	Telephone no. Fax no.
3. Registration number of vehicle and trailer RE05 CVM	
4. Species of animals	5. Number of animals
6. Health status of animals *(please circle health status that applies)* Slaughter Production/Fattening (Breeding) Other (specify)	
7. Full address of place animals loaded * (if different to section 1 or 2) Post code	8. Full address of final destination * Post code
9. Date of loading	10. Time first animal loaded
11. Date **and** time of departure *	12. Estimated duration of journey *
13. Time(s) and place(s) where rest stops taken, including if the animals were offered liquid and/or fed	
14. Date last animal unloaded	15. Time last animal unloaded

*** Mandatory information**